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1983-1985

U.S. AUTOMOTIVE MARKET FOR ZINC DIE CASTING

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The weight of zinc die castings at work in the typical 1985 U.S.-built automobile settled at an estimated 20.2 lbs, according to this latest edition of an annual study by the Zinc Institute. The figure represents a 1.5 lb drop from the 1984 year model average weight, for a decline of seven percent.

We'd like to think of the decrease as an indication that this—the largest end use for zinc die casting—is stabilizing. But as long as auto makers continue to downsize their products, you're going to witness less material usage, and that includes less steel, less plastic, less everything.

Another factor contributing to the decline, according to the study, is the increasing use of ThinWall casting by the automotive industry. ThinWall zinc components—often formulated with computer assistance—make maximum use of the metal's strength and, as such, are lighter and more functional than conventionally designed die castings.

Car makers are no longer overbuilding their parts with excess metal; they're pouring just the right amount of material to get the job done. That's a positive for zinc because it makes the metal more competitive than plastics or aluminum for a wide range of lighter-weight components.

Since 1980, the weighted amount of zinc die castings employed in American manufactured cars has declined an average of a pound a year, the study found. Five years ago, the total was 25.0 lbs of zinc die castings in the average car. It dropped to 24.1 in 1981; 23.1 in 1982; 22.6 in 1983; 21.7 in 1984; and now stands at an estimated 20.2 lbs for the just-completed model year.

Based on design data secured from the four largest U.S. car builders, the study also tracked the amount of zinc die castings used to fabricate optional equipment. Over the last three years, the per-vehicle accessory figure slipped from 9.7 lbs in 1983 to 9.1 lbs in 1984 to an estimated 8.5 lbs in 1985.

The .6 lb drop in zinc-built options was a major factor in the overall seven percent decline during the 1985 model year.

Most estimates on the use of zinc die castings by the automotive industry differ from those offered in ZI's study because they fail to take into account the use of zinc to cast optional accessories. That leads to faulty projections because it's rare to find an American car leaving the factory without accessories.

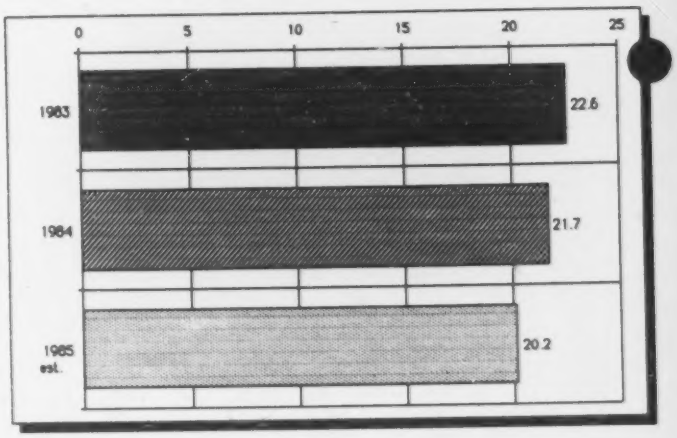
Analyzing the data in terms of size classifications, it can be noted that the average 1985 small car utilized 14.9 lbs of zinc die cast components; the typical intermediate rolled with 21.6 lbs; and standard models functioned with 29.8 lbs. In comparison, the 1984 totals by class were: small, 15.4 lbs; intermediate, 23.5; and standard, 32.1.

The 2.3 lb drop in the standard car category was an indication of auto makers' continuing efforts to slim down their top-of-the-line models. Big cars accounted for 20% of the total U.S.-built auto market in both 1984 and 1985, according to survey estimates. Intermediates accounted for 33% both years, while small cars captured a 47% share.

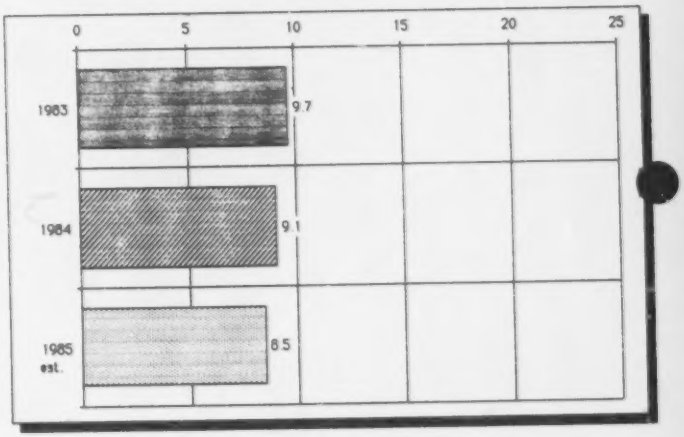
As has been the case for the past three years, General Motors led the American auto industry in its use of zinc die castings. GM's per car estimate was 21.3 lbs, compared to 19.1 lbs for Ford; 18.5 for Chrysler; and 13.7 for American Motors.

No after-market production, truck or van use was included in the survey, which is now in its eleventh year. It is estimated that after-market zinc die castings accounted for 3-to-5 lbs per car, and that the typical truck uses between 15-to-20 lbs.

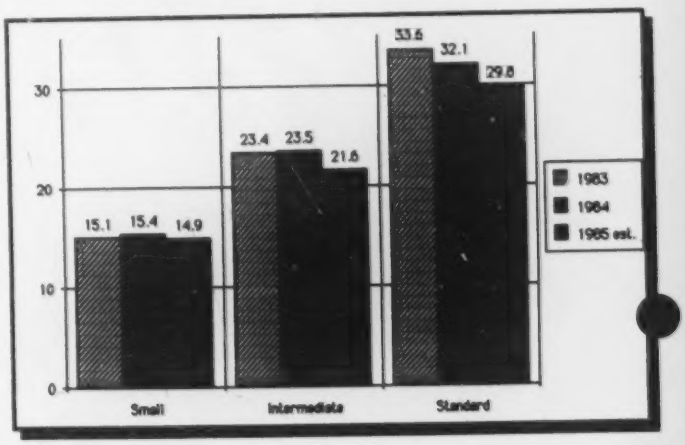
Average Zinc Die Casting Usage Per Car (in lbs.)



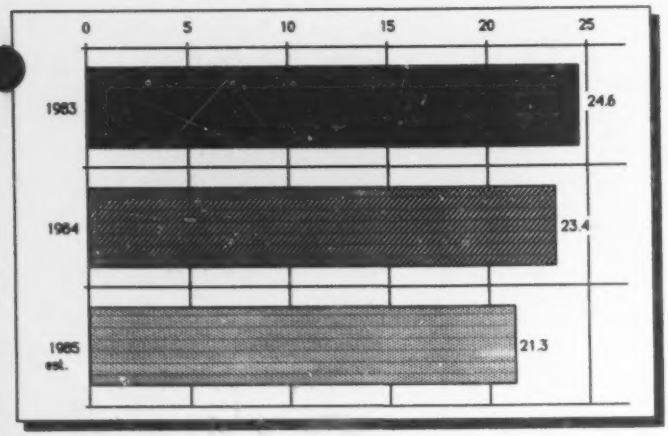
Average Optional Equipment Zinc Die Casting Usage (in lbs.)



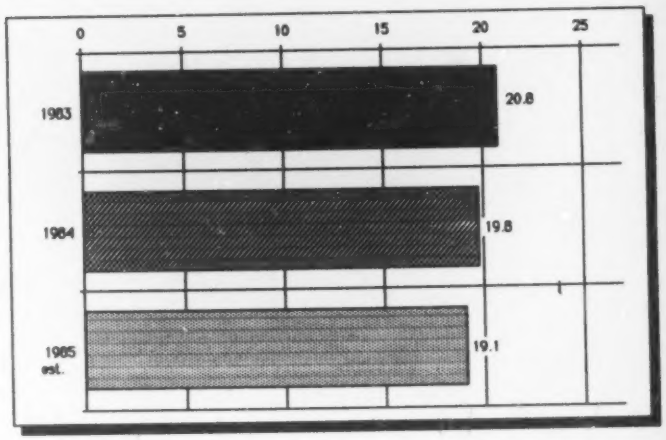
Average Zinc Die Casting Usage by Size Class (in lbs.)



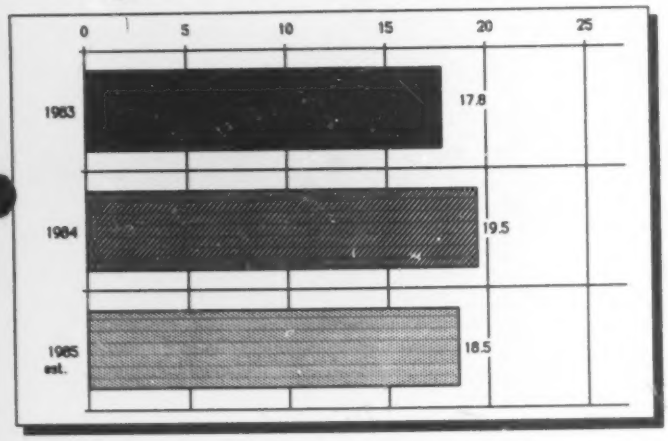
Average General Motors Per Car Usage of Zinc Die Castings (in lbs.)



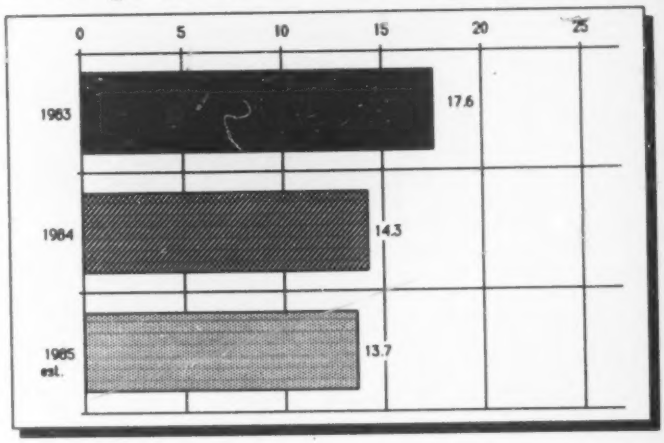
Average Ford Per Car Usage of Zinc Die Castings (in lbs.)



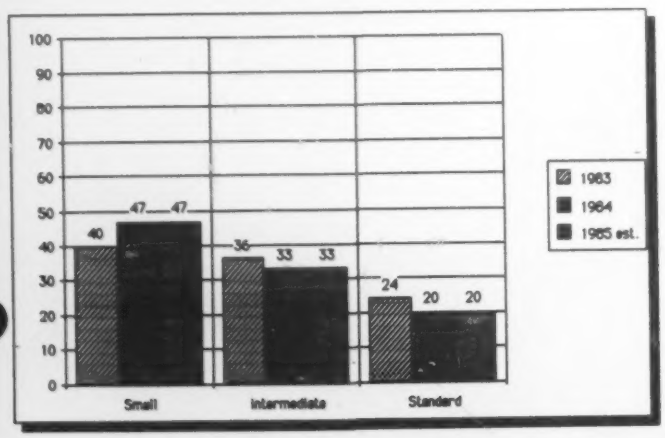
Average Chrysler Per Car Usage of Zinc Die Castings (in lbs.)



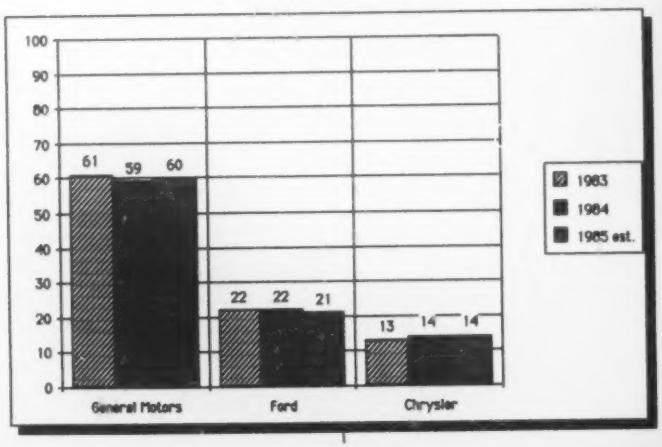
Average American Motors Per Car Usage of Zinc Die Castings (in lbs.)



Market Share by Class Size (in percent)



Market Share by Manufacturer (in percent)



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292 Madison Ave. New York, NY 10017

Printed in U.S.A.